

### **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-3. (Canceled)

4. (Currently Amended) ~~[[The]]~~ A machine-implemented method, of claim 1, further

comprising:

executing a first instance of a virtual console driver that is implemented by an

operating system kernel instance;

establishing a first device node within a first virtual operating system environment

(VOSE) of a plurality of VOSEs controlled by the operating system kernel

instance;

establishing an association between the first device node and the first instance of the

virtual console driver;

in response to a first process' request to write to the first device node, determining

with which instance of the virtual console driver the first device node is

associated, wherein the first process executes in the first VOSE;

in response to determining that the first device node is associated with the first

instance of the virtual console driver, sending, to the first instance of the

virtual console driver, data received from the first process;

establishing a second device node within a global operating system environment

(OSE) that comprises the plurality of VOSEs;

- establishing an association between the second device node and the first instance of the virtual console driver;
- in response to a second process' request to read from the second device node,
- determining with which instance of the virtual console driver the second device node is associated, wherein the second process executes in the global OSE; and
- in response to determining that the second device node is associated with the first instance of the virtual console driver, sending, to the second process, the data that was received from the first process and sent to the first instance of the virtual console driver.
5. (Currently Amended) The method of claim [[5]]4, wherein the second device node is not accessible by any processes executing in any VOSE of the plurality of VOSES.
6. (Currently Amended) The method of claim [[5]]4, further comprising:
- receiving, from the second process, a command to execute an instance of the virtual console driver;
- wherein the step of executing the first instance of the virtual console driver is performed in response to receiving the command from the second process.
7. (Currently Amended) The method of claim [[5]]4, further comprising:
- receiving, from the second process, a command to establish the first device node within the first VOSE;
- wherein the step of establishing the first device node within the first VOSE is performed in response to receiving the command from the second process.

8. (Currently Amended) The method of claim ~~[[1]]~~ 4, further comprising:
- executing a second instance of the virtual console driver, wherein the second instance of the virtual console driver is separate from the first instance of the virtual console driver;
- establishing a ~~second~~ third device node within a second virtual operating system environment (VOSE) of the plurality of VOSEs, wherein the second VOSE is separate from the first VOSE;
- establishing an association between the ~~second~~ third device node and the second instance of the virtual console driver;
- in response to a second process' request to write to the ~~second~~ third device node, determining with which instance of the virtual console driver the ~~second~~ third device node is associated, wherein the second process executes in the second VOSE; and
- in response to determining that the ~~second~~ third device node is associated with the second instance of the virtual console driver, sending, to the second instance of the virtual console driver, data received from the second process.
9. (Currently Amended) The method of claim 8, wherein:
- except for processes executing in the first VOSE, the first device node is not accessible by any processes executing in any VOSE of the plurality of VOSES; and

except for processes executing in the second VOSE, the ~~second~~ third device node is not accessible by any processes executing in any VOSE of the plurality of VOSES.

10. (Currently Amended) The method of claim 8, wherein:

the first device node is exposed as “/dev/console” to processes executing in the first VOSE; and

the ~~second~~ third device node is exposed as “/dev/console” to processes executing in the second VOSE.

- 11-13. (Canceled)

14. (Currently Amended) ~~[[The]]~~ A machine-readable medium ~~of claim 11, further~~ comprising:

instructions for causing one or more processors to execute a first instance of a virtual console driver that is implemented by an operating system kernel instance;

instructions for causing one or more processors to establish a first device node within a first virtual operating system environment (VOSE) of a plurality of VOSEs controlled by the operating system kernel instance;

instructions for causing one or more processors to establish an association between the first device node and the first instance of the virtual console driver;

instructions for causing one or more processors to determine, in response to a first process' request to write to the first device node, with which instance of the virtual console driver the first device node is associated, wherein the first process executes in the first VOSE;

instructions for causing one or more processors to send data received from the first process to the first instance of the virtual console driver in response to determining that the first device node is associated with the first instance of the virtual console driver;

instructions for causing one or more processors to establish a second device node within a global operating system environment (OSE) that comprises the plurality of VOSEs;

instructions for causing one or more processors to establish an association between the second device node and the first instance of the virtual console driver;

instructions for causing one or more processors to determine, in response to a second process' request to read from the second device node, with which instance of the virtual console driver the second device node is associated, wherein the second process executes in the global OSE; and

instructions for causing one or more processors to send, to the second process, in response to determining that the second device node is associated with the first instance of the virtual console driver, the data that was received from the first process and sent to the first instance of the virtual console driver.

15. (Original) The machine-readable medium of claim 14, wherein the second device node is not accessible by any processes executing in any VOSE of the plurality of VOSES.

16. (Original) The machine-readable medium of claim 14, further comprising:  
instructions for causing one or more processors to receive, from the second process, a  
command to execute an instance of the virtual console driver;  
wherein the instructions for causing one or more processors to execute the first  
instance of the virtual console driver comprise instructions for causing one or  
more processors to execute the first instance of the virtual console driver in  
response to receiving the command from the second process.
17. (Original) The machine-readable medium of claim 14, further comprising:  
instructions for causing one or more processors to receive, from the second process, a  
command to establish the first device node within the first VOSE;  
wherein the instructions for causing one or more processors to establish the first  
device node within the first VOSE comprise instructions for causing one or  
more processors to establish the first device node within the first VOSE in  
response to receiving the command from the second process.
18. (Currently Amended) The machine-readable medium of claim ~~[[11]]~~ 14, further  
comprising:  
instructions for causing one or more processors to execute a second instance of the  
virtual console driver, wherein the second instance of the virtual console  
driver is separate from the first instance of the virtual console driver;  
instructions for causing one or more processors to establish a ~~second~~ third device  
node within a second virtual operating system environment (VOSE) of the

plurality of VOSEs, wherein the second VOSE is separate from the first VOSE;

instructions for causing one or more processors to establish an association between the ~~second~~ third device node and the second instance of the virtual console driver;

instructions for causing one or more processors to determine, in response to a second process' request to write to the ~~second~~ third device node, with which instance of the virtual console driver the ~~second~~ third device node is associated, wherein the second process executes in the second VOSE; and

instructions for causing one or more processors to send data received from the second process to the second instance of the virtual console driver in response to determining that the ~~second~~ third device node is associated with the second instance of the virtual console driver.

19. (Currently Amended) The machine-readable medium of claim 18, wherein:
- except for processes executing in the first VOSE, the first device node is not accessible by any processes executing in any VOSE of the plurality of VOSEs;
- and
- except for processes executing in the second VOSE, the ~~second~~ third device node is not accessible by any processes executing in any VOSE of the plurality of VOSEs.

20. (Currently Amended) The machine-readable medium of claim 18, wherein:
- the first device node is exposed as “/dev/console” to processes executing in the first VOSE; and
- the ~~second~~ third device node is exposed as “/dev/console” to processes executing in the second VOSE.

21-23. (Canceled)

24. (Currently Amended) ~~[[The]]~~ An apparatus ~~of claim 21, further~~ comprising:
- a mechanism for executing a first instance of a virtual console driver that is implemented by an operating system kernel instance;
- a mechanism for establishing a first device node within a first virtual operating system environment (VOSE) of a plurality of VOSEs controlled by the operating system kernel instance;
- a mechanism for establishing an association between the first device node and the first instance of the virtual console driver;
- a mechanism for determining, in response to a first process’ request to write to the first device node, with which instance of the virtual console driver the first device node is associated, wherein the first process executes in the first VOSE;
- a mechanism for sending data received from the first process to the first instance of the virtual console driver in response to determining that the first device node is associated with the first instance of the virtual console driver;



- a mechanism for establishing a second device node within a global operating system environment (OSE) that comprises the plurality of VOSEs;
- a mechanism for establishing an association between the second device node and the first instance of the virtual console driver;
- a mechanism for determining, in response to a second process' request to read from the second device node, with which instance of the virtual console driver the second device node is associated, wherein the second process executes in the global OSE; and
- a mechanism for sending the data that was received from the first process and sent to the first instance of the virtual console driver to the second process in response to determining that the second device node is associated with the first instance of the virtual console driver.
25. (Original) The apparatus of claim 24, wherein the second device node is not accessible by any processes executing in any VOSE of the plurality of VOSES.
26. (Original) The apparatus of claim 24, further comprising:
- a mechanism for receiving, from the second process, a command to execute an instance of the virtual console driver;
- wherein the mechanism for executing the first instance of the virtual console driver comprises a mechanism for executing the first instance of the virtual console driver in response to receiving the command from the second process.

27. (Original) The apparatus of claim 24, further comprising:

a mechanism for receiving, from the second process, a command to establish the first

device node within the first VOSE;

wherein the mechanism for establishing the first device node within the first VOSE

comprises a mechanism for establishing the first device node within the first

VOSE in response to receiving the command from the second process.

28. (Currently Amended) The apparatus of claim ~~[[21]]~~ 24, further comprising:

a mechanism for executing a second instance of the virtual console driver, wherein

the second instance of the virtual console driver is separate from the first

instance of the virtual console driver;

a mechanism for establishing a ~~second~~ third device node within a second virtual

operating system environment (VOSE) of the plurality of VOSEs, wherein the

second VOSE is separate from the first VOSE;

a mechanism for establishing an association between the ~~second~~ third device node and

the second instance of the virtual console driver;

a mechanism for determining, in response to a second process' request to write to the

~~second~~ third device node, with which instance of the virtual console driver the

~~second~~ third device node is associated, wherein the second process executes in

the second VOSE; and

a mechanism for sending data received from the second process to the second instance

of the virtual console driver in response to determining that the ~~second~~ third

device node is associated with the second instance of the virtual console driver.

29. (Currently Amended) The apparatus of claim 28, wherein:

except for processes executing in the first VOSE, the first device node is not accessible by any processes executing in any VOSE of the plurality of VOSES; and

except for processes executing in the second VOSE, the ~~second~~ third device node is not accessible by any processes executing in any VOSE of the plurality of VOSES.

30. (Currently Amended) The apparatus of claim 28, wherein:

the first device node is exposed as “/dev/console” to processes executing in the first VOSE; and

the ~~second~~ third device node is exposed as “/dev/console” to processes executing in the second VOSE.

31. (New) The method of claim 4, wherein, except for processes executing in the first VOSE, the first device node is not accessible by any processes executing in any VOSE of the plurality of VOSES.

32. (New) The method of claim 4, wherein the first device node is exposed as “/dev/console” to processes executing in the first VOSE.

33. (New) The machine-readable medium of claim 14, wherein, except for processes executing in the first VOSE, the first device node is not accessible by any processes executing in any VOSE of the plurality of VOSEs.
34. (New) The machine-readable medium of claim 14, wherein the first device node is exposed as “/dev/console” to processes executing in the first VOSE.
35. (New) The apparatus of claim 24, wherein, except for processes executing in the first VOSE, the first device node is not accessible by any processes executing in any VOSE of the plurality of VOSES.
36. (New) The apparatus of claim 24, wherein the first device node is exposed as “/dev/console” to processes executing in the first VOSE.